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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/324,655	06/03/1999	MASASHI TANAKA	Q54422	1832

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EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 05/21/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

107

Office Action Summary

Application No.

09/324,655

Applicant(s)

TANAKA, MASASHI

Examiner

Hanh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed on 06/0399.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5 and 6-15 are rejected under 35 USC 103(a) as being unpatentable over **Mendelson et al.** (US Pat. No. 6343083 B1) in view of **Terasaki** (US Pat. No. 5,999,532).

In claim 1, **Mendelson et al.** discloses, in Fig.2, a plurality of ATM endpoints 222, 227 (network terminators) respectively connected to PCs 218, 229 (subscriber terminators) (a plurality of terminators respectively connected to subscriber terminals). See Fig.2, col. 8, lines 47-55. Under control of an ATM network 210, an access terminal 214 (ATM line concentrator) provides virtual circuits (virtual connection) to ATM endpoints 222, 227 via "control VC" 260 (line concentrator accommodates VCs to the network terminators). See col.12, lines 12-18. The access terminal 214 (concentrator) comprises an access network controller 250 (substitute call control) (subscriber concentrator includes a substitute call control). See col.9, lines 10-16. Access network controller 250 (substitute call control) performs signaling on behalf of ATM endpoint 222 (network terminator) to ATM network 210 for establishing virtual connection. (See col.14, lines 60-67). No call setup signaling is needed across the ATM network 210 which comprising ATM endpoints (network terminator) (substituting call control functions of network

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terminators and subscribers). See col.15, lines 18-20. **Mendelson et al.** does not disclose line concentrator is connected to an ATM switching apparatus through a UNI. **Terasaki** discloses, in Fig.3, an ATM line concentrator 2 (subscriber line concentrator) is connected to an ATM switching unit 1 (ATM switching apparatus) via a User Network Interface (line concentrator is connected to an ATM switching apparatus via a UNI). See col.7, lines 50-57. Since **Mendelson et al.** teaches an access terminal 214 (concentrator) that establishes switched virtual connection 266 between ATM endpoints in ATM network 210, therefore; it would have been obvious to one of ordinary skills in the art to modify the **Mendelson et al.** by implementing the User Network Interface of **Terasaki** in the ATM network 210 so that the access terminal 214 is connected with ATM switches via UNI; and a virtual connection is established between the subscriber and the concentrator. The motivation to use the access terminal 214 as a substitute call control is to reduce memory capacity.

In claim 5, **Mendelson et al.** discloses that access terminal 214 (ATM concentrator) is connected to PCs 218, 229 (subscriber terminals) via a PVC having allocated VPCI/VCI values (subscriber concentrator is connected to subscriber terminal by a PVC) when setup/connect messages (call control messages) are exchanged and accepted (to allow control messages to be transmitted and received). See col.14, lines 27-35.

In claim 7, **Mendelson et al.** discloses values of VPCI/ VCI allocated when the setup request is allocated (col.14, lines 25-35), but does not disclose the VPI/VCI value is 0/5. **Terasaki** discloses a connection request generated by subscriber 5 is transmitted through PVC 23 which has values VPI=0, VCI=5 (PVC connection has VPI/VCI value of 0/5) . See col.7, lines 60-65. Therefore, it would have been obvious to one of ordinary skills in the art to allocate

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values of VPI/VCI equal to 0/5 to the values of VPI/VCI in **Mendelson et al.**. The motivation is to identify the switched virtual connection established in a permanent virtual connection.

In claim 6, **Mendelson et al.** discloses access terminal 214 (concentrator) is connected to ATM endpoints 22 (network terminator) via “control VCs” which are permanent virtual circuits (PVC) (subscriber concentrator is connected to subscriber terminal by a PVC). See col.12, lines 12-20. Request message is transmitted between PCs 218 and network controller 250 through the control virtual circuit (PVC) (PVC allows call control message is transmitted and received). See col.13, lines 1-10.

In claim 8, **Mendelson et al.** discloses values of VPCI/ VCI allocated when the setup request is allocated (col.14, lines 25-35), but does not disclose the VPI/VCI value is 0/5. **Terasaki** disclose a connection request generated by subscriber 5 is extracted as a setup message through a PVC 23. The PVC 23 has values VPI=0, VCI=5 (PVC connection has VPI/VCI value of 0/5) . See col.7, lines 60-65. Therefore, it would have been obvious to one of ordinary skills in the art to allocate values of VPI/VCI equal to 0/5 to the values of VPI/VCI in **Mendelson et al.**. The motivation is to identify the switched virtual connection established in a permanent virtual connection.

In claim 9, **Mendelson et al.** does not disclose call control message is transmitted and received in a same protocol as that for a subscriber data. **Terasaki** discloses, in Fig.3, broadband subscriber 5-8 send requests for virtual connections through ATM multiplexers 3, 4, ATM line concentration unit 2 and AM switch 1 (call control message is transmitted and received in a same protocol as that for a subscriber data). See col.4, line 65 to col.5, line 5. Therefore, it would have been obvious to one of ordinary skills in the art to combine the **Terasaki** with the **Mendelson et**

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al. by implementing the messages transmission through ATM protocol because **Mendelson et al.** discloses establishing switched virtual connection between subscribers and access terminal 214 via ATM endpoints in an ATM network 210. The motivation is to enhance transmission format in the ATM network.

In claim 10, **Mendelson et al.** does not disclose call control message is transmitted and received in a same protocol as that for a subscriber data. **Terasaki** discloses, in Fig.3, broadband subscriber 5-8 send requests for virtual connections through ATM multiplexers 3, 4, ATM line concentration unit 2 and AM switch 1 (call control message is transmitted and received in a same protocol as that for a subscriber data). See col.4, line 65 to col.5, line 5. Therefore, it would have been obvious to one of ordinary skills in the art to combine the **Terasaki** with the **Mendelson et al.** by implementing the messages transmission through ATM protocol because **Mendelson et al.** discloses establishing switched virtual connection between subscribers and access terminal 214 via ATM endpoints in an ATM network 210. The motivation is to enhance transmission format in the ATM network.

In claim 11, **Mendelson et al.** discloses, in Fig.2, ARP (ARP) request made by PC 218 on data network 216 (classical IP) is transmitted through ATM endpoints 222 of ATM network 210 (call control message is transmitted and received by a classical IP and ARP over ATM system). See col.13, lines 1-10.

In claim 12, **Mendelson et al.** discloses, in Fig.2, ARP (ARP) request made by PC 218 on data network 216 (classical IP) is transmitted through ATM endpoints 222 of ATM network 210 (call control message is transmitted and received by a classical IP and ARP over ATM system). See col.13, lines 1-10.

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In claim 13, **Mendelson et al.** discloses, in Fig.2, connection request (call control message) is transmitted over ADSL line 224 via ATM network 210. The request message is sent over the control VC (PVC connection). See 8, lines 35-50. **Mendelson et al.** does not disclose XDSL. However, XDSL is a general term and is well-known in the art. It comprises comprises high-bit-rate DSL , adaptive-bit- rate DSL, symmetrical DSL. Therefore, it would have been well-known skills in the art to adapt XDSL comprising high-bit-rate DSL , adaptive-bit-rate DSL, symmetrical DSL, and ADSL.

In claim 14, **Mendelson et al.** discloses, in Fig.2, connection request (call control message) is transmitted over ADSL line 224 via ATM network 210. The request message is sent over the control VC (PVC connection). See 8, lines 35-50. **Mendelson et al.** does not disclose XDSL. However, XDSL is a general term and is well-known in the art. It comprises comprises high-bit-rate DSL , adaptive-bit- rate DSL, symmetrical DSL. Therefore, it would have been well-known skills in the art to adapt XDSL comprising high-bit-rate DSL , adaptive-bit-rate DSL, symmetrical DSL, and ADSL.

In claim 15, **Mendelson et al.** discloses packet transmitted between PC 218 (subscriber) and ATM endpoint 222 uses IP over Ethernet protocol (IEEE 802.3 Ethernet). See col. 8, lines 32-40 & col.9, lines 20-37.

Claims 2 and 4 are rejected under 35 USC 103(a) as being unpatentable over **Mendelson et al.** (US Pat. No. 6343083 B1) in view of **Terasaki** (US Pat. No. 5,999,532), and further in view of **Hijikata et al.** (US Pat. No. 5,864,537).

In claim 2, **Mendelson et al.** discloses, in Fig.2, PCs 218, 229 (subscribers) issue connection requests to the access terminal 214 (concentrator) via corresponding ATM endpoints 222, 227 (network terminators) (subscribers issue a call request to ATM concentrator through a corresponding network terminators). See col.13, lines 5-12. **Mendelson et al.** does not disclose a line number is held. **Hijikata et al.** discloses, in Fig.7A, line number #1 (line number) connecting between subscribers 0-23 (subscriber terminal) and distributor #1 (a line number connecting between subscriber terminal and network terminal is held). See Fig.7A, col.7, lines 50-60. Since the network controller 252 (substitute call control) is a part of the access terminal 214 (concentrator), therefore, it would have been obvious to one of ordinary skills in the art to modify the **Mendelson et al.** by having the management table of **Hijikata et al.** in the network controller 252 to store the line number with purpose of identifying line number allocated via a virtual connection to subscribers.

In claim 4, **Mendelson et al.** discloses, in Fig.2, a switched virtual connection 266 (SVC connection) is established in response to a call request transmitted from PCs 218, 229 (subscribers) to access terminal 214 (line concentrator). See col. col.14, lines 30-50. **Mendelson et al.** does not disclose VPI and VCI values are held. **Hijikata et al.** discloses, in Fig.7A, VPI and VCI values are stored in a management table (a VPI/VCI value of the SVC are held). See col.7, lines 50-60. Since the connection request generated by PCs 220, 229 in **Mendelson et al.** is established via virtual connection, therefore; it would have been obvious to one of ordinary skills in the art to modify the **Mendelson et al.** by using the management table storing the values of VPI/VCI in the network controller 250. The motivation is to identify a virtual connection corresponding to a VCI value assigned to subscribers.

Claim 3 is rejected under 35 USC 103(a) as being unpatentable over **Mendelson et al.** (US Pat. No. 6343083 B1) in view of **Terasaki** (US Pat. No. 5,999,532), and further in view of **Shirai et al.** (US Pat. No. 5,734,654).

In claim 3, **Mendelson et al.** discloses, in Fig.2, PCs 218, 229 (subscribers) issue connection requests to the access terminal 214 (line concentrator) via a corresponding ATM endpoints 222, 227 (network terminators) (subscribers issue a call request to ATM concentrator through a corresponding network terminators). See col.13, lines 5-12. **Mendelson et al.** does not disclose a call number is held. **Shirai et al.** discloses, in Fig.5B, a call number is stored in control table (call number is held). See col.5, lines 55-60. Therefore, it would have been obvious to one of ordinary skills in the art to modify the **Mendelson et al.** by having the control table storing call number into the network controller 250. The motivation is to identify physical line allocated between subscriber and concentrator.

Allowable Subject Matter

Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 16, the prior art does not disclose a PVC is connected between subscriber terminal and a corresponding network terminal.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kato (US Pat. No. 5,999,514) discloses Virtual Connection on Establishment Controlling Apparatus in a Cell Switching System and Subscriber Service Providing Method, for Use in a Cell Switching System.

Enoki et al. (US Pat. No. 6,421,345 B1) discloses ATM Device.

Watanabe (US Pat. No. 5,771,231) discloses ATM exchange.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 703 306-5445. The examiner can normally be reached on Monday-Friday 8:00 AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703 306-4744. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-3988 for regular communications and 703 308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

Fax: 703 872-9314

Hanh Nguyen



May 9, 2003